

In the Specification

On page 10, please delete the paragraph starting on line one and substitute the following therefor, without prejudice:

CI In brief overview, and referring to FIG. 1, an embodiment of such an apparatus 10 for the real-time, in-line electrical characterization of a semiconductor during manufacturing using induced surface photovoltage includes a sensor head assembly 14, supporting electronics 18, and a wafer conveying device 22. In operation, the wafer conveying device 22, such as a conveyor belt, a robotic arm, a wafer chuck or similar device, moves the wafers 28, 28', having a first surface 28A and a second surface 28B, through the manufacturing process and, in one embodiment, beneath the sensor head assembly 14.

In the Claims:

Please amend the following claim:

53. (Thrice Amended) A semiconductor wafer fabrication system comprising:

a sealed chamber for processing said semiconductor wafer having a first surface and a second surface; and a head assembly comprising:

CI a modulated light source exposing at least a portion of said semiconductor wafer to light having a wavelength and modulated at a frequency;

a surface photovoltage sensor comprising a plurality of electrodes positioned adjacent said first surface to detect a surface photovoltage induced at said first surface of said semiconductor wafer in response to said light without contacting said wafer, said plurality of electrodes sufficient for detecting said surface photovoltage on said first surface;

said surface photovoltage sensor of said head assembly located within said sealed chamber; and